THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

_____

Ex parte WILLIAM J. RADDI,
JOSEPH C. PAULAKONIS, and
ROBERT W. JOHNSON JR.

_____

Appeal No. 1996-3275
Application 08/038,469[1]

_____

HEARD: Oct. 5, 1999

_____

Before KRASS, RUGGIERO, and LALL, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 5 and 7 through 13, all of the claims pending

[1] Application for patent filed March 29, 1993.

in the application.

The invention is directed to uninterrupted power systems (UPS) and, more particularly, to a power factor corrected UPS that has an improved connection of the battery to the neutral line.

Representative independent claim 1 is reproduced as follows:

1. An uninterrupted power supply (UPS), having first and second input terminals for connection to a power line source, one of said terminals being connected to power line neutral, first and second output terminals, one of said output terminals being connected to said neutral through an uninterrupted conductor, and a battery, comprising

a power factor correction (PFC) circuit having an AC to DC converter circuit, an input connected across said input terminals, and having a positive output terminal providing a positive DC high voltage with respect to said neutral and a negative output terminal providing a negative high DC voltage with respect to neutral,

a high positive voltage rail connected to said positive output terminal and a negative high voltage rail connected to said negative output terminal,

an output circuit having an input connected across said positive and negative rails, and providing an output to said output terminals, and

battery connection circuit means for connecting said battery to said PFC converter circuit so that when the power line voltage fails and said UPS is in battery mode operation, battery voltage is converted through said PFC converter circuit to supply said positive and negative high voltage rails.

The examiner relies on the admitted prior art [APA] depicted in Figure 2, as well as on the following reference:

Tamoto 4,823,247 Apr. 18, 1989

Claims 1 through 5 and 7 through 13 stand rejected under 35 U.S.C. 103 as unpatentable over APA in view of Tamoto.[2]

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

OPINION

We reverse.

As appellants explain in their specification, it was known to use a battery connection circuit for connecting battery power to the input of the DC to AC inverter in a UPS system. However, these conventional systems did not involve a power factor correction device which further complicates the problem of maintaining integrity of the neutral. The specification points out, at page 2, that the "task of

[2] We note that the examiner's answer does not set forth a formal statement of the grounds for rejection but based on the final rejection and the rationale in the answer, as well as appellants' understanding of the rejection as set forth in the brief, it is clear that the claims are being rejected under 35 U.S.C. 103 based on the admitted prior art in view of Tamoto.

connecting the battery to neutral is simple in a power supply unit without a PFC circuit" and identifies the Tamoto reference for such a teaching.

Further, the specification indicates that the prior art was able to provide for an undisturbed neutral in systems containing a PFC device but that those systems required three converters. The instant invention provides for an improvement wherein separate converters for the battery are eliminated while preserving the advantages of power factor corrected UPS devices maintaining the integrity of the neutral connection from input to load.

The examiner rejects the instant claims over APA, which shows a conventional UPS system containing a PFC circuit but which contains a battery converter because the battery cannot be connected directly to the PFC circuit, in view of Tamoto, even though Tamoto has no PFC circuit. As appellants explained in the specification, Tamoto merely shows a typical system without a PFC circuit and that the "task of connecting the battery to neutral is simple in a power supply unit without a PFC circuit," as in Tamoto. Now, without any motivation for doing so, other than appellants' disclosure,

the examiner wants to combine Tamoto with APA, concluding that it would have been obvious to provide for a direct connection of the battery to the PFC circuit in APA in view of Tamoto's battery connection since this "would allow for the correction of the battery power and provide a more stable output, as both the acknowledged prior art and Tamoto are from the same field of endeavor, i.e. (UPS) systems with PFCs" [answer-page 4].

Thus, the examiner takes the position that Tamoto does, indeed, disclose a UPS system with a PFC circuit. The examiner appears to be factually in error on this point. There is nothing in the disclosure of Tamoto regarding a PFC circuit. Tamoto employs a chopper and booster circuit which chops and boosts a rectified DC voltage across capacitors 19 and 20 to provide a greater DC voltage across capacitors 29 and 30. We agree with appellants that at "no point is there is any power factor correction" [brief-page 5] in Tamoto.

The examiner is apparently equating the "power factor correction circuit" of APA, including elements L1, L2, Q1 and Q2, to elements 23-26 of Tamoto and assuming that since Tamoto shows similar inductors and transistors, this must be a PFC

circuit. We disagree and refer to appellants' brief, at pages 7-8 for an explanation, with which we agree, as to why the circuitry of Tamoto does not function as a PFC circuit.

The examiner's response to appellants' argument is that appellants argue limitations which are not in the claim. We disagree. The instant claims very clearly call for a battery connection circuit for connecting the battery to the PFC converter circuit "so that...battery voltage is converted through said PFC converter circuit..." [independent claims 1 and 9, independent claim 13 providing for similar, but slightly different language reciting the connection of the battery connecting circuit to the PFC circuit]. Thus, in order for Tamoto to have provided the impetus for the artisan to have modified APA to provide for connection of the battery directly to the PFC circuit, Tamoto would have needed to suggest at least a PFC circuit which, notwithstanding the examiner's claims to the contrary, it does not.

Accordingly, we find the examiner's conclusion of obviousness of the claimed subject matter in view of APA and Tamoto to be unreasonable and we will not sustain the rejection of claims 1 through 5 and 7 through 13 under 35

U.S.C. § 103.

The examiner’s decision is reversed.

REVERSED

Errol A. Krass Administrative Patent Judge	)	
Joseph F. Ruggiero Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Parshotam S. Lall Administrative Patent Judge	)	

tdc

Appeal No. 1996-3275
Application No. 08/038,469

Mitchell S. Bigel
MYERS BIGEL SIBLEY & SAJOVEC, P.A.
Post Office Box 37428
Raleigh, NC 27627